

**Amendments to the Claims:**

The listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

- 5     1 (currently amended): A display controller for driving a monitor comprising:  
a graphics chip for outputting a display data; and  
a converter for converting the display data into a display driving voltage, the converter  
comprising:  
a current mirror circuit for generating an output current according to a reference  
10         current and the display data, the output current and the reference current  
corresponding to a mirror ratio, the output current being delivered to the  
monitor for generating the display driving voltage, the current mirror circuit  
comprising:  
a first current route for delivering the reference current; and  
15         a plurality of second current routes electrically connected to the first current  
route for delivering a plurality of mirror currents to an output port of the  
converter to form the output current, wherein the plurality of mirror  
currents ~~each have a different magnitude~~ have magnitudes differing from  
each other by a factor of two, and the plurality of mirror currents add  
20         together to form the output current; and  
a voltage calibration circuit for modifying the mirror ratio according to the display  
driving voltage and a ~~predetermined~~ reference display driving voltage and  
adjusting the output current to drive the display driving voltage to approach the  
~~predetermined~~ reference display driving voltage.  
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- 2 (cancelled).
- 3 (currently amended): The display controller of claim 1 wherein the voltage  
calibration circuit comprises:  
30     a mirror ratio controller for controlling the mirror ratio;

a comparator for comparing the display driving voltage with the ~~predetermined~~  
reference display driving voltage to generate a comparison result; and  
a state machine for generating a setting value according to the comparison result and  
outputting the setting value to the mirror ratio controller to adjust the mirror  
5 ratio.

4 (currently amended): The display controller of claim 3 wherein the setting value is  
used for lowering the mirror ratio if the display driving voltage is greater than the  
~~predetermined~~ reference display driving voltage, and the setting value is used for  
10 raising the mirror ratio if the display driving voltage is not greater than the  
~~predetermined~~ reference display driving voltage.

5 (original): The display controller of claim 3 wherein the mirror ratio controller  
comprises a plurality of mirror ratio setting units, and the mirror ratio controller  
15 activates a predetermined amount of mirror ratio setting units according to the setting  
value for adjusting the mirror ratio.

6 (withdrawn): The display controller of claim 5 wherein each of the mirror ratio  
setting units corresponds to an identical adjustment magnitude when adjusting the  
20 mirror ratio.

7 (original): The display controller of claim 5 wherein the mirror ratio setting units  
correspond to a plurality of adjustment magnitudes when adjusting the mirror ratio.

25 8 (original): The display controller of claim 5 wherein each of the mirror ratio setting  
units is electrically connected to the first current route through a current mirror means.

9 (original): The display controller of claim 3 wherein the state machine enters a first  
operating state for adjusting the setting value to drive the mirror ratio controller to  
30 lower the mirror ratio if the comparison result corresponds to a first logic level, and

the state machine enters a second operating state for adjusting the setting value to drive the mirror ratio controller to raise the mirror ratio if the comparison result corresponds to a second logic level.

- 5     10 (original): The display controller of claim 9 wherein the state machine will leave the first operating state and enter a third operating state for holding the setting value if the state machine stays at the first operating state, and the comparison result corresponds to the second logic level, and the state machine will leave the second operating state and enter the third operating state for holding the setting value if the  
10     state machine stays at the second operating state, and the comparison result corresponds to the first logic level.

11 (currently amended): A method for calibrating a display driving voltage comprising:

- 15     (a) converting a display data into an output current according to a reference current, the output current and the reference current corresponding to a mirror ratio, the output current being used for generating the display driving voltage, wherein the output current is generated from utilizing a current mirror means for delivering the reference current via a first current route and forming the output current through a  
20     plurality of mirror currents delivered via a plurality of second current routes, wherein the plurality of mirror currents ~~each have a different magnitude~~ have magnitudes differing from each other by a factor of two, and the plurality of mirror currents add together to form the output current; ~~and~~
- 25     (b) comparing the display driving voltage and a ~~predetermined~~ reference display driving voltage for modifying the mirror ratio and adjusting the output current to drive the display driving voltage to approach the ~~predetermined~~ reference display driving voltage; and
- (c) driving a monitor to display images according to the display driving voltage.

- 30     12 (cancelled).

13 (currently amended): The method of claim 11 wherein step (b) further comprises:  
comparing the display driving voltage and a ~~predetermined~~ reference display driving  
voltage for generating a comparison result; and  
5 generating a setting value according to the comparison result for adjusting the mirror  
ratio.

14 (currently amended): The method of claim 13 further comprising utilizing the  
setting value to lower the mirror ratio if the display driving voltage is greater than the  
10 ~~predetermined~~ reference display driving voltage, and utilizing the setting value to raise  
the mirror ratio if the display driving voltage is not greater than the ~~predetermined~~  
reference display driving voltage.

15 (currently amended): The method of claim 13 further comprising enabling a first  
15 operating state for lowering the mirror ratio when the display driving voltage is  
greater than the ~~predetermined~~ reference display driving voltage, and the comparison  
result corresponds to a first logic level, and enabling a second operating state for  
raising the mirror ratio when the display driving voltage is not greater than the  
~~predetermined~~ reference display driving voltage, and the comparison result  
20 corresponds to a second logic level.

16 (original): The method of claim 15 further comprising disabling the first operating  
state and enabling a third operating state for holding the setting value when the first  
operating state is currently enabled, and the comparison result corresponds to the  
25 second logic level, and disabling the second operating state and enabling the third  
operating state for holding the setting value when the second operating state is  
currently enabled, and the comparison result corresponds to the first logic level.

17-18 (cancelled)

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- 19 (new): The display controller of claim 1, wherein the converter further comprises a switch module coupled to the plurality of second current routes for controlling the plurality of second current routes respectively to form the output current.
- 5     20 (new): The method of claim 11, wherein step (a) further comprises switching the plurality of second currents routes on respectively to form the output current.